

REMARKS

Claims 1-27 are pending in this application. Claim 1 has been amended.

The Examiner rejected claims 10, 17 and 27 under 35 U.S.C. § 103(a) as being unpatentable over Sun (US 5,455,629) in view of Fukushima (US 6,477,204). Applicant respectfully traverses the Examiner's rejections.

Initially, and as Applicant previously noted, Sun is not in the same field as the claimed invention. Sun is directed to a decoding unit for a single MPEG sequence. In Sun, this single sequence is split into two parts for transmission – a high-priority part and a low-priority part. See Sun at column 1, lines 30-43; column 5, lines 52-55. This is done to reduce transmission errors. Sun then describes how to recover the single sequence when decoding and how to regenerate a coherent single sequence when low-priority elements are lost during transmission. In Sun, high and low priority refer to the importance of the data to reconstructing a single sequence. Further, the decoder of Sun does not prioritize high and low priority data – the prioritizing is done by the transmitter of Sun, not the decoder. In contrast, the present invention is directed to a system and method for decoding a plurality of MPEG sequences simultaneously to produce a plurality of MPEG images simultaneously. The Examiner argued that Sun is directed to decoding sequential image data. But there is no indication the sequential image data decoded by Sun is “from more than one MPEG stream,” as recited. Thus, Sun is not an appropriate primary reference.

Turning to the language of the claims, claim 10 recites: “A method for decoding a plurality of MPEG sequences from more than one MPEG stream simultaneously using a single MPEG decoder, comprising: receiving first and second image sequences of coded images; receiving a stream of decoding commands, each decoding command corresponding to a respective one of the coded images; prioritizing the received coded images; decoding the coded images using the single MPEG decoder, thereby producing decoded images of first and second images sequences.” As noted above, Sun does not simultaneously decode a plurality of MPEG sequences from more than one MPEG stream.

The Examiner points to the error token generator 65 of Figure 8 of Sun as receiving coded images. As Applicant previously argued, the error token generator 65 provides

substitute data for missing low priority blocks of a single image sequence. Even assuming error token generator 65 receives an image sequence, there is no mention in the description of Figure 8 of the error token generator 65 of Figure 8 “receiving first and second image sequences of coded images” as recited. The Examiner does not address this argument, but continues to rely on error token generator 65.

Sun also does not prioritize the received coded images. The Examiner contends that elements 60, 61 and 65 “receive the priority data of the coded image data.” As previously noted, even if true this is not the same thing as “prioritizing the received coded images”, as recited.

Sun also does not decode “the coded images using the single MPEG decoder, thereby producing decoded images of first and second images sequences,” as recited. The Examiner contends the variable length decoder 64 of Figure 8 provides this function. Even if Sun is (incorrectly) viewed as receiving and decoding two image sequences simultaneously, variable length decoder 64 produces a single image from these blocks. See Sun, col. 8, lines 27-29 (“The recombined HP and LP video signals provided by the VLD 64 ...”). Therefore Sun does not produce “decoded images of first and second image sequences” as recited. Accordingly, Sun is not an appropriate primary reference.

The Examiner does not address Applicant’s prior arguments, but instead adds Fukushima as a reference and contends Applicant’s arguments are moot. Applicant’s prior arguments regarding Sun are not moot because the Examiner continues to rely upon his prior arguments regarding Sun, citing to the same portions previously cited.

Further, Fukushima in fact teaches away from the claimed invention. Instead of using “a single MPEG decoder,” and a prioritization scheme to simultaneously decode multiple MPEG streams, Fukushima teaches the use of multiple MPEG decoders to simultaneously decode multiple MPEG streams. Thus combining Sun and Fukushima would not teach, suggest or motivate “decoding a plurality of MPEG sequences from more than one MPEG stream simultaneously using a single MPEG decoder,” as recited.

Claims 17 and 27 depend from claim 10. Accordingly, Applicant respectfully submits that claims 10, 17 and 27 are not rendered obvious by Sun, alone or in combination with Fukushima.

The Examiner rejected claims 1-9, 11-16 and 18-26 under 35 U.S.C. § 103(a) as being unpatentable over Sun (US 5,455,629) and Oku (US 5,880,786) in further view of Fukushima (US 6,477,204). Applicant respectfully traverses the Examiner's rejections.

Independent claim 1 recites: "a decoder control circuit for controlling an MPEG decoder, structured to decode several coded images from at least two MPEG streams simultaneously in a plurality of periods ... including a priority assignment circuit structured to, at each period, grant among the images a decoding priority to any of the images of the first type that still have not been decoded one period after their decoding order." Similarly, independent claim 8 recites: "receiving first and second image sequences of coded images from more than one MPEG stream, each coded image having an image type that is one of a plurality of image types; receiving a stream of decoding commands in a series of synchronizing periods, each decoding command corresponding to a respective one of the coded images; ... prioritizing the decoding commands by assigning to each decoding command a priority level based on the image type of the coded image corresponding to the decoding command; decoding the coded images in a priority order based on the priorities assigned to the coded images, thereby producing first and second images sequences of decoded images; and displaying the first and second image sequences."

As noted above, Sun, alone or in combination with Fukushima, does not teach, suggest or motivate "an MPEG decoder ... structured to decode several coded images from at least two MPEG streams simultaneously in a plurality of periods," as recited in claim 1. The Examiner does not contend that this is taught, suggested or motivated by Oku. Further, Fukushima teaches away from using a priority scheme to simultaneously decode more than one MPEG stream. The Examiner does not contend that this is taught, suggested or motivated by Oku.

The Examiner identifies intraframe coding frames (I frames) and two types of interframe predictive coding frames (P and B frames) as the claimed image types and then points

to column 8, lines 19-26, to assert that priority is assigned on the basis of an image type. “Type”, however, at column 8, lines 19-26 of Sun, refers to an expected codeword type, not to an image type, and the cited section discusses passing either the HP or the LP signal of an image sequence. Thus, Sun is not an appropriate primary reference because it does not teach or suggest a “priority assignment circuit structured to, at each period, grant among the images a decoding priority to any of the images of the first type,” as recited in claim 1 or “prioritizing the decoding commands by assigning to each decoding command a priority level based on the image type of the coded image corresponding to the decoding command,” as recited in claim 8.

In addition, the Examiner concedes that Sun does not teach the use of periods in a prioritizing scheme for decoding. The Examiner contends this is taught by Oku, citing to column 3, lines 25-48, and to Figure 11. As Applicant previously argued, the cited portion of the specification of Oku does not discuss synchronization periods. The Examiner failed to address this in the present Office Action. Moreover, Oku does not teach, suggest or motivate assigning decoding priority levels to image sequences during a synchronization period, let alone priority assignments based on an image type. Further, the Examiner does not explain how combining the vertical and horizontal periods of Oku with Sun and Fukushima would achieve the claimed invention. It would not. The vertical and horizontal signals of Oku are used to determine when the memory may be accessed for decoding and when it may be accessed for displaying. *See* Oku, col. 14, lines 8-15. These signals are not used to prioritize decoding between images based on an image type.

Claims 2-7 and 25 depend from claim 1 and claims 9 and 26 depend from claim 8. Accordingly, Applicant respectfully submits that claims 1-9 and 25-26 are not rendered obvious by Sun in view of Oku and Fukushima. Claims 11-16 depend from claim 10. As discussed above, Sun, alone or in combination with Fukushima, does not teach or suggest “decoding a plurality of MPEG sequences from more than one MPEG stream simultaneously using a single MPEG decoder,” as recited in claim 10. The Examiner does not contend that this is taught or suggested by Oku. Accordingly, Applicant respectfully submits that claims 11-16 are not rendered obvious by Sun in view of Oku and Fukushima.

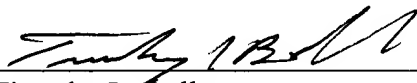
Independent claim 18 recites: "an MPEG decoder configured to decode a plurality of MPEG image sequences from more than one MPEG stream in parallel; and a controller coupled to the MPEG decoder and configured to control the MPEG decoder such that: a received image sequence of a first type is decodable during two periods following an associated decoding order; and a received image sequence of a second type is decodable during a first period following an associated decoding order." Claims 19-24 depend from claim 18. As noted above, Sun, alone or in combination with Fukushima and Oku, does not teach, suggest or motivate an MPEG decoder configured to decode a plurality of MPEG image sequences in parallel. Accordingly, Applicant submits that claims 18-24 are not anticipated or rendered obvious by Sun alone or in combination with Oku and Fukushima.

The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

All of the claims remaining in the application are now clearly allowable. Favorable consideration and a Notice of Allowance are earnestly solicited.

Respectfully submitted,

SEED Intellectual Property Law Group PLLC

  
\_\_\_\_\_  
Timothy L. Boller  
Registration No. 47,435

TLB:rr

701 Fifth Avenue, Suite 6300  
Seattle, Washington 98104-7092  
Phone: (206) 622-4900  
Fax: (206) 682-6031

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